Draft Final

Work Plan

and

Sampling and Analysis Plan

Soil and Groundwater Background Investigation

Atlantic Fleet Weapons Training Facility

Vieques, Puerto Rico

CTO Task Order 031

Prepared for

Department of the Navy
Atlantic Division
Naval Facilities Engineering Command

Under the

LANTDIV CLEAN II Program
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APPENDIX A

Checklists

Site-Specific Investigation-Derived Waste Plan Checklist

This checklist supplements the Master IDW Plan with site-specific information. Once completed for a specific project, it provides necessary IDW information for each investigation. It is to be taken into the field with the Master IDW Plan.

Site: AFWTF

1. IDW Media:
   - X_____Soil cuttings
   - X_____Well development or purge water
   - X_____Decontamination residual soil and wastewater
   - X_____Personal Protective Equipment (PPE) or disposable equipment
   - _____Other _____

2. Expected Regulatory Status:
   - _____Hazardous
   - _____Solid Waste
   - X_____Unknown
   - X_____Other Waste management activities regulated by OSHA Hazwoper standard (1910.120)

3. Site Location: Decontamination fluids and PPE will be generated at all SWMUs.

4. Nature of Contaminants Expected:
   - _____Petroleum contamination
   - _____Polyaromatic hydrocarbon
   - _____Pesticides
   - _____Herbicides
   - _____PCBs
   - _____Metals
   - _____Other - Contaminant concentrations from previous analytical results were very low for all of the above.

6. Volume of IDW Expected:
   - X___ Drums - Maximum of six. One for decontamination
     Fluids, four for drilling cuttings, and one for PPE and other disposable items.
   - _____Cubic Yards
   - _____Tons
   - 330___Gallons

6. Compositing Strategy for Sample Collection: No IDW sampling planned. Will base disposal decisions on analytical results from sampling.

7. IDW Storage

X_____As per Master IDW Plan _____Other_____

8. Waste Disposal

X_____As per Master IDW Plan _____Other_____

Site-Specific Field Sampling Plan Checklist

This checklist supplements the Master FSP with site-specific information. Once completed for a specific project, it provides necessary field sampling information for each investigation. It is to be taken into the field with the Master FSP.

Site: AFWTF

1. Tasks to be performed:

_____Geophysical surveys
_____Soil gas surveys
_____Surface water and sediment sampling
X_____Surface soil sampling
X_____Soil boring installation
_____Subsurface soil sampling
X_____Monitoring well installation and development
_____Monitoring well abandonment
X_____Groundwater sampling
X_____In-situ groundwater sampling
_____Aquifer testing
X_____Hydrogeologic measurements
_____Biota sampling
_____Trenching
_____Land surveying
X_____Investigation derived waste sampling
X_____Decontamination
_____Other_____

2. Field measurements to be taken:

X_____temperature
X_____pH
_____dissolved oxygen
X_____turbidity
X_____specific conductance
X_____organic vapor monitoring
X_____geophysical parameters (list):
X_____electromagnetic induction
_____ground-penetrating radar
X_____surveying
_____magnetometry
X_____global positioning system
_____soil gas parameters (list):
_____combustible gases
X_____water-level measurements
X_____pumping rate
_____other_____

3. Sampling program (nomenclature, etc.):

X_____As per Master FSP _____Other
Investigation Workplan

4. Map of boring and sampling locations (attach to checklist): See Workplan.

5. Table of field samples to be collected: See Investigation Workplan.

6. Applicable SOPs or references to specific pages in Master FSP: The following SOPs from Volume 2 of the Master Project Plans are to be implemented.

- Shallow Soil Sampling
- Monitoring Well Installation
- Homogenization of Soil and Sediment Samples

- Chain-of-Custody
- Packaging and Shipping Procedures
- Field Rinse Blank Preparation
- Decontamination of Personnel and Equipment
- Disposal of Fluids and Solids

7. Site-specific procedures or updates to protocols established in the Master FSP:

Described in the Workplan.

Site-Specific Quality Assurance Project Plan Checklist

This checklist supplements the Master QAPP with site-specific information. Once completed for a specific project, it provides necessary quality assurance information for each investigation. It is to be taken into the field with the Master QAPP.

Site: AFWTF

1. List sampling tasks: groundwater and subsurface soil sampling, surface soil sampling, and monitoring well installations.

2. List data quality objectives: The objective of the Background Investigation is to determine the background concentrations of naturally occurring metals.

3. Organization:

LANTDIV Navy Technical Representative	Chris Penny / LANTDIV
PREQB Federal Facilities Project Manager	Aissa Colon / PREQB
CH2M HILL Activity Manager	John Tomik / CH2M HILL
Quality Control Senior Review	Kevin Sanders / CH2M HILL
Technical Project Manager	Marty Clasen/ CH2M HILL
Field Team Leader	Eric Isern / CH2M HILL

4. Table of samples with analyses to be performed and associated QC samples included in the SWMU Investigation Workplan.

5. Analytical Quantitation Limits:

   X_____As per Master QAPP

   _____Other

6. QA/QC Acceptance Criteria (e.g., precision, accuracy)

   X_____As per Master QAPP _____Other (attached)

7. Data reduction, validation, and reporting:

   X_____As per Master QAPP _____Other (attached)

8. Internal QC Procedures (field and laboratory):

   X_____As per Master QAPP _____Other (attached)

9. Corrective Action:

   X_____As per Master QAPP _____Other (attached)

10. Other deviations from Master QAPP - None

Site-Specific Health and Safety Plan

This checklist must be used in conjunction with the Master HASP. This checklist is intended for use by CH2M HILL employees only. All CH2M HILL employees performing tasks under this checklist must read and sign both this checklist and the Master HASP and agree to abide by their provisions (see EMPLOYEE SIGNOFF attached to the checklist.

Site: AFWTF

Location(s): SWMU Location and Background Sampling Location Map and is included in the Workplan.

This document shall be maintained onsite with the Master HSP. It will include as attachments from the Work Plan a site map and the site characterization and objectives for this site.

The procedures described in the Master HSP will be followed unless otherwise specified in this Site-Specific HSP.

1. HAZWOPER-Regulated Tasks

_____Test pit and excavation
X_____Soil boring installation
X_____Geoprobe boring
X_____Geophysical surveys
X_____Hand augering
X_____Subsurface soil sampling
X_____Surface soil sampling
_____Soil gas surveys
X_____Sediment sampling
X_____Monitoring well/drive point installation
_____Monitoring well abandonment
X_____Groundwater sampling
_____Aquifer testing
X_____Hydrologic measurements
X_____Surface water sampling
_____Biota sampling
X_____Investigation-derived waste (drum) sampling and disposal
_____Observation of loading of material for offsite disposal
_____Oversight of remediation and construction
_____Other_____

2. Hazards of Concern: (Check as many as are applicable. Refer to Section 3 of Master H&S Plan for control measures):

X_____Heat stress
_____Cold stress
_____Buried utilities, drums, tanks
_____Inadequate illumination
X_____Drilling
_____Heavy equipment
_____Working near water
_____Flying debris
_____Gas cylinders
X_____Noise
X_____Slip, trip, or fall hazards
X_____Back injury
_____Confined space entry
_____Trenches, excavations
_____Protruding objects
X_____Vehicle traffic
_____Ladders, scaffolds
_____Fire
_____Working on water
_____Snakes or insects
X_____Poison ivy, oak, sumac
X_____Ticks
_____Radiological
_____Other_____

3. Contaminants of Concern (List if known. Refer to Table 3.8 of the Master HASP contaminant-specific information

PCBs Metals VOCs

PNAs SVOCs

4. Personnel (List CH2M HILL field team members :

Field team leader(s) Erik Isern

Site safety coordinator(s) Erik Isern

Field team members Karen Karvazy, Emiliano Cabale, Hector Hernandez, Joshua Hayes, Allyie Chang

5. Contractors/Subcontractors

X_____Procedures as per Master HASP

X_____Other

Name: To be added _____ _____

Contact: To be added _____ _____

Telephone: To be added _____ _____

6. Level of PPE required:_____D_____
Refer to Table 5.1 of Master HASP, CH2M HILL SOPs HS-07 and HS-08, and Respiratory Protection, Section 2 of the Site Safety Notebook.

7. Air monitoring instruments to be used (refer to Master HSP for action levels):

X_____OVM 10.6 _____FID

_____CGI _____Dust monitor

_____O_2

8. Decontamination procedures:

_____As per Section 7 of Master HASP

X_____Other As described in the SWMU Investigation Workplan.

9. List any other deviations or variations from the Master HASP: None

10. Emergency Response (Check that all names and numbers are correct on page 47 of Master HASP and attach corrected page to this checklist)

11. Map to hospital (Highlight route to hospital from site and attach to this checklist)

12. Emergency Contacts (Check that all names and numbers are correct on page 49 of Master HASP and attach corrected page to this checklist)

13. Approval. This prepared site-specific checklist must be approved by John Longo/NJO or Laura Johnson/NJO or their authorized representative

Name Title: Health and Safety Manager Date:

(Signature will be included in the Final HASP)

14. Employee Signoff. All CH2M HILL employees working at the site must sign the attached Employee Signoff for the checklist as well as for the Master HASP.

_____Site

HASP Checklist Employee Signoff

The employees listed below have been given a copy of both this health and safety plan checklist and the Master HSP, have read and understood them, and agree to abide by their provisions.

EMPLOYEE NAME	EMPLOYEE SIGNATURE AND DATE